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TRANSPORT PRICES IN AFRICAN CONSUMER PRICE INDICES: SOME GUIDELINES*

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TRANSPORT PRICES IN AFRICAN CONSUMER PRICE INDICES: SOME GUIDELINES*

INTRODUCTION

1. As countries develop economically and technically, the field of transport becomes more and more important. Consequently, there is a growing need for information about developments in the transport sector. In this paper some problems of the implementation of transport prices into the consumer price index of African countries are discussed.

2. In spite of the growing importance of the transport sector in many countries, many African countries still do not include the commodity group 'transport' in their consumer price indices. Possible reasons for this are:

- difficulty in measuring prices in parts of the transport sector accurately
- problems of finding adequate weights for the commodity group
- for some countries the transport sector may still be of limited importance

CLASSIFICATION OF THE COMMODITY-GROUP TRANSPORT

3. A classification scheme for the different kinds and qualities of transport in a particular country must of course reflect the conditions of the country concerned. At the same time, however, it should, if possible, facilitate international comparisons. The classification scheme set out in table 1 was developed within the framework of the International Comparison Project for Africa (ICP-Africa) and meets both objectives.

Table: Subgroup headings for commodity group transport*

61	Purchase of vehicles
611	Cars
612	Cycles and mopeds
62	Operation of personal transport equipment
621	Tyres and tubes, spare parts and accessories
622	Charges on maintenance and repairs
623	Petrol, oil and grease
624	Other expenditure on personal vehicles

63. Purchase transport
631 Local transport
632 Long distance transport
632.1 Road transport
632.2 Rail transport
632.3 Air transport

* Source: Final household consumption, statistical office of the European Communities, ICP-Africa/II, Luxembourg,

Under each heading a list of items representing the corresponding subgroup can be found in the original publication (The full list of items for the commodity group transport is also published in the Statistical Information Bulletin No. 18). For some countries the deletion of subgroup heading may be advisable if some subgroups are not important. However, this list of classifications can serve well as a common frame for African countries.

CALCULATION OF THE WEIGHTS

4. Rough estimates for the relative importance of the subheadings 61 (purchase of vehicles), 62 (operation of personal transport equipment), 631 (local transport) and 632 (long distance transport) will usually be available from household expenditure surveys. In order to calculate weights for more detailed subheadings other sources of data have to be exploited. These for example may be: Transport statistics, Statistics of private motor vehicles licensed (by type and make), Import statistics (about vehicles and spare parts), Statistics on local production of spare parts and vehicles, Statistics about the number of taxis and buses in use. As sources of information are different for each country no general rules for the calculation of subgroup weights can be given. In most cases rough estimation procedures will have to be used in addition to the data already available.

COLLECTION OF PRICES

5. Before prices can be collected, the items to be priced have to be selected. When selecting items for pricing, the aim should be to select them in such a way that they represent the non-selected items of their corresponding subgroup.

Selection of items

6. If a list of relevant items exists, this may be achieved by random sampling. Also the list of items and item definitions established for the ICP may serve as a sampling frame, provided that the necessary modifications are performed on it.

Methods of reporting prices in the transport sector

7. There are several ways of reporting and collecting prices:

(a) Reporting by outlets, trade associations and enterprises

(b) Price inquiries by agents of the statistical agency

(c) Price collection by purchasing and/or bargaining

Most of the prices for items in the transport sector can be collected by methods (a) and (b), which is very desirable, because these methods require less manpower. For all sectors of public transport where prices are controlled (and this control is known to be working) and for the government-owned sector of public transport method (a) is applicable. One method is to ask enterprises to report changes in their fares by letter or telephone call to the statistical office. In other sectors, it may be necessary to apply methods (b) and (c). As method (c) of collecting prices can cause serious problems, it should be avoided, unless prices are significantly affected by bargaining.

Sampling problems

8. If the index is to cover the whole country, and regional differences in price trends thought to exist, price collection has to take place in the different regions. If price trends for different regions can be assumed to be similar, it may be possible to restrict price measurements to one region. It should be emphasized that only price trends (but not necessarily price levels) have to be the same.

9. The question of which respondents to select can be easily answered for large public transport enterprises. Usually their number will be small, so they can all be selected. If, however, it is decided to take a random sample of these enterprises, a list of them can serve as a sampling frame. In other areas where the number of outlets is too large, probability sampling may be applied (if there is a list of outlets). If a list of outlets does not exist, purposive sampling has to be used.

SOME SPECIAL PROBLEMS

Seasonal non-availability

10. Transport services performed on roads which are not all weather roads may not be available for a limited period of time.

If there are other items in the subgroup which are available during this period, their percentage price increase can be used in order to extrapolate the current price relative for the item which is not available. (Merely including it at the last recorded price is likely to bias the index).

Quality differences

11. When a new product is introduced into the market and the old product is also available, the two products are assumed to be competing and the quality difference is taken to be proportional to the price difference. If the old product service disappears from the market there may be cases when it may be advisable to neglect this increase of quality and treat it as a price increase. This may be the case for the low income group which may have no choice as to the quality.

Checking representativity of selected items

12. When a country decides to include transport prices in the CPI, it may consider to collect detailed price data in order to check for representativity of the selected items. The following procedure may be used to check representativity:

(a) Estimate standard deviation of the price relatives from the detailed data;

(b) Calculate difference between the index derived from the detailed data and the price relative of the item under consideration; and

(c) Consider the item as non-representative if this difference is larger than

- one standard deviation if the weight of the item (subgroup) is large
- two standard deviations if the weight of the item (subgroup) is moderately large
- three standard deviations if the weight of the item (subgroup) is small.

Classification of weights into large, moderately large and small will in general depend on the weights of the CPI concerned. One could take 10%, 5% and 2%. This procedure may, of course, also be applied to benchmark data collected some years after the introduction of transport prices into the CPI.

COMPILATION AND PULLICATION OF THE INDEX

13. Almost all African countries use the Laspeyers formula, which is also recommended here. A major revision of the weights will usually be carried out using data obtained from a new household expenditure survey. If, however, transport statistics suggest that significiant shifts in expenditure within the commodity group have taken place, these statistics can be used to revise subgroup weights.

14. Prices of items under subheadings 61 (purchase of vehicles), 62 (operation of personal transport equipment) can be expected to behave differently from prices of items under subheading 63 (purchased/public transport). Countries collecting prices for a sufficient number of items under these subheadings may be considered producing indices for subheadings 61, 62 and 63 separately.

SUMMARY OF RECOMMENDATIONS

15. The classification scheme of the transport sector set out in table 1 is proposed as a guideline for selection of items. Subheadings which are considered to be unimportant can be neglected. For the remaining subheadings a list of items is established which can be used as a sampling frame for the selection of items. The list of items worked out by the ICP-Africa could form a useful basis for this purpose.

A possible first step

16. If category 63 (purchased transport) is mainly provided by publicly owned and large private enterprises, the introduction of purchased transport into the CPI should not cause major problems, as prices in this area are easy to collect. It may also be possible to include one or two items provided by small private enterprises in order to see if price trends in this sector differ from those of large enterprises. If a price index on category 63 (purchased transport) is compiled its coverage should be clearly stated in corresponding publications as price index on 'purchased transport'.